# Dual Series Schottky Barrier Diodes

**BAT54SWT1**

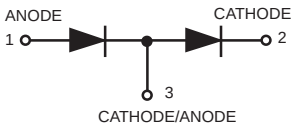
**30 VOLTS DUAL SERIES SCHOTTKY AND BARRIER DIODES**

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

- Extremely Fast Switching Speed
- Low Forward Voltage — 0.35 Volts (Typ) @ $I_F$ = 10 mAdc




**CASE 419, STYLE 9**
**SOT–323 (SC–70)**




## ORDERING INFORMATION

| Device | Package | Shipping |
|---|---|---|
| BAT54SWT1 | SOT–323 | 3000/Tape & Reel |

**Preferred:** devices are recommended choices for future use and best overall value.

## DEVICE MARKING

BAT54LT1 = B8

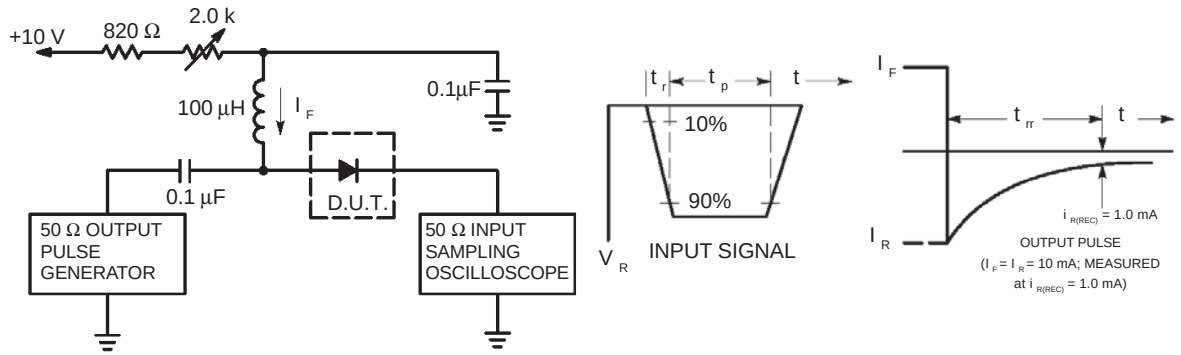
## MAXIMUM RATINGS ($T_J$ = 125°C unless otherwise noted)

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 30 | Volts |
| Forward Power Dissipation | $P_F$ | | |
| @ $T_A$ = 25°C | | 200 | mW |
| Derate above 25°C | | 1.6 | mW/°C |
| Forward Current(DC) | $I_F$ | 200Max | mA |
| Junction Temperature | $T_J$ | 125Max | °C |
| Storage Temperature Range | $T_{stg}$ | –55 to +150 | °C |

## ELECTRICAL CHARACTERISTICS ($T_A$ = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Reverse Breakdown Voltage ($I_R$ = 10 µA) | $V_{(BR)R}$ | 30 | — | — | Volts |
| Total Capacitance ($V_R$ = 1.0 V, f = 1.0 MHz) | $C_T$ | — | 7.6 | 10 | pF |
| Reverse Leakage ($V_R$ = 25 V) | $I_R$ | — | 0.5 | 2.0 | µAdc |
| Forward Voltage ($I_F$ = 0.1 mAdc) | $V_F$ | — | 0.22 | 0.24 | Vdc |
| Forward Voltage ($I_F$ = 30 mAdc) | $V_F$ | — | 0.41 | 0.5 | Vdc |
| Forward Voltage ($I_F$ = 100 mAdc) | $V_F$ | — | 0.52 | 0.8 | Vdc |
| Reverse Recovery Time ($I_F$ = $I_R$ = 10 mAdc, $I_{R(REC)}$ = 1.0 mAdc, Figure 1) | $t_{rr}$ | — | — | 5.0 | ns |
| Forward Voltage ($I_F$ = 1.0 mAdc) | $V_F$ | — | 0.29 | 0.32 | Vdc |
| Forward Voltage ($I_F$ = 10 mAdc) | $V_F$ | — | 0.35 | 0.40 | Vdc |
| Forward Current (DC) | $I_F$ | — | — | 200 | mAdc |
| Repetitive Peak Forward Current | $I_{FRM}$ | — | — | 300 | mAdc |
| Non–Repetitive Peak Forward Current (t < 1.0 s) | $I_{FSM}$ | — | — | 600 | mAdc |

**BAT54SWT1**




Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ($I_F$) of 10mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
3. $t_p \gg t_{rr}$

**Figure 1. Recovery Time Equivalent Test Circuit**

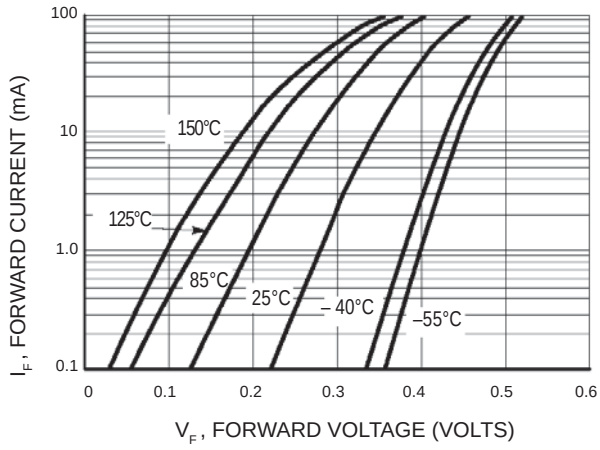



**Figure 2. Forward Voltage**

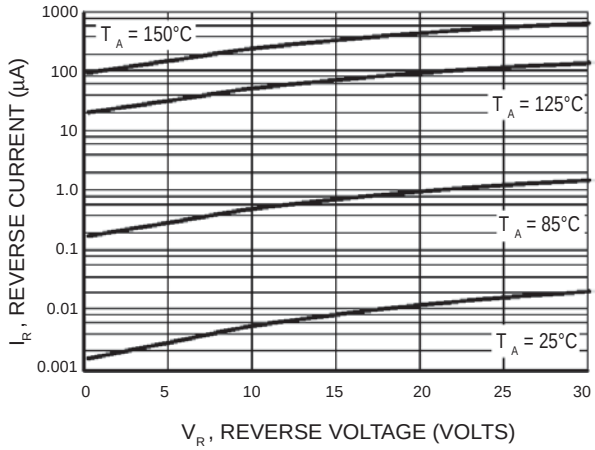



**Figure 3. Leakage Current**

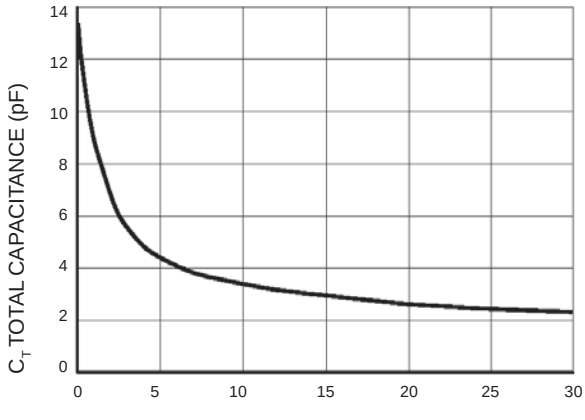



**Figure 4. Total Capacitance**